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10/685,622	10/14/2003	Stefano Benedetto Previdi	50325-0822	5086

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HICKMAN PALERMO TRUONG & BECKER, LLP
2055 GATEWAY PLACE
SUITE 550
SAN JOSE, CA 95110

EXAMINER	
PHAM, BRENDA H	
ART UNIT	**PAPER NUMBER**
2616	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	**Application No.** 10/685,622	**Applicant(s)** PREVIDI ET AL.
	Examiner BRENDA PHAM	**Art Unit** 2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 April 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4-7,9,10,12-15,17,18,20-25 and 27-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-2, 4-7, 9-10, 12-15, 17-18, 20-25 and 27-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date *03/27/08;02/28/08*.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-2, 4-7, 9-10, 12-15, 17-30 are currently pending in the application.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-2, 4-7, 9-10, 12-15, 17-18, 20-25, 27-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Harper (US 7,058,016 B1).

Regarding claims 7, 15 and 23, Harper discloses an apparatus (claim 15) and a method (claim 7) of generating routing information in a data communications network, the method comprising:

receiving at a first network element information relating to a second network element;

determining whether the information relating to a second network element indicates a change in the network;

when information relating to a second network element indicates a change in the network, determining a new shortest path through the network from the first network element of each network element in the network;

for each network element in the network, computing a delay that is proportional to a distance to that network element from the first network element **("With link state routing, each router must discover its neighbors and learn their network addresses, measure the delay to each of its neighbors, construct a packet containing this information, send the packet to all other routers, and compute the shortest path to every other router." Col. 4, lines 37-52)**; and

after a delay, updating routing information for the first network element based on the new shortest path for the first network element **(Harper teaches "a method of updating a tree structure of a root node in a computer network of interconnected nodes after a change in the network's topology comprises receiving new route information at the root node and applying an incremental Dijkstra algorithm to the root node only if the new route information improves or worsens existing routes of the node or one of the existing routes of the nodes are lost" (Col. 2, line 17-25, also see Col. 5, line 30-50).**

Regarding claims 17, 24, 30, Harper further teaches a computer readable medium comprising one or more sequences of instructions for a data communication network having, as elements, links and nodes (see figure 2, Col. 4, line 1-10).

Regarding claims 1 and 9, Harper discloses an apparatus (claim 9) and a method (claim 9) of generating routing information in a data communications network having, as elements, nodes and links, the method comprising the steps performed at al first network element of:

receiving at the first network element information relating to a change in the network at a second network element **(new route information is received in a link state packet, Abstract)**,

identifying a sequence in which updating of routing information at each element in the network should occur **(a sequence of links or routes or subnet is recalculated based on the received information in the link state packet, abstract)**,

for each network element in the network, computing a delay that is proportional to a distance to that network element from the first network element **("With link state routing, each router must discover its neighbors and learn their network addresses, measure the delay to each of its neighbors, construct a packet containing this information, send the packet to all other routers, and compute the shortest path to every other router." Col. 4, lines 37-52)**, and

updating the routing information at the first element in sequence **(the steps of updating the routing information or updating a tree structure of a root node upon the completion of recalculation steps, Col. 2, line 15-20).**

Regarding claims 2, 10, 18 and 25, wherein the step of identifying an updating sequence comprises determining a new shortest path through the network form the first network element for each network element in the network; and after a delay, updating routing information for the first network element based on the new shortest path for the first network element **("With link state routing, each router must discover its neighbors and learn their network addresses, measure the delay to each of its neighbors, construct a packet containing this information, send the packet to all other router, and compute the shortest path to every router. Once a router has accumulated a full set of link state packets, It can construct the entire subnet graph since every link is now represented. Dijkstra's algorithm is then run locally to construct the shortest path to all reachable destinations. The output of the Dijkstra algorithm is the next hop (i.e., intermediate router) to the destination. The result of this algorithm is installed in the routing tables." Col. 4-5, line 45-65 and 9-30, respectively).**

Regarding claims 3-4, 11-12, 19-20, 26-27, wherein the delay is proportional to the distance of the first network element from the second network element **("With link state routing, each router must discover its neighbors measure the delay of each of its neighbors, column 4, line 45-50, also see FIG. 9)**

Regarding claims 5, 13, 21 and 28 wherein determining whether the information relating to a second network element indicates a increase in a cost metric for the second element **(see FIG. 4, elements 128 and 131 "IS this Neighbor Cost = best Cost").**

Regarding claim 6, 14, 22 and 29 Harper further teaches determining whether the information relating to a second network element indicates a decrease in a cost metric for the second element **(FIG. 4, element 128).**

Response to Arguments

4. Applicant's arguments filed 04/09/2008 have been fully considered but they are not persuasive. Applicant argued in the REMARK that "sequence" in Harper refers to an instance of an LSA. Examiner respectfully agrees, however the terminology "a sequence" is not defined in the claim. Therefore, Examiner interpreted "a sequence" as of an LSA.

Furthermore, Harper also teaches “a sequence” in term of a group or set of nodes connected together to form a path, such as a routes or subnet in network topology table (column 5, lines 9-15). Harper further teaches “Each node in the network builds a spanning tree which encompassed each other node in the network. A Spanning Tree is a graphical construction in which each node (router in the present instance) is reachable over a unique sequence of links”.

Applicant further argued that “Harper’s reference itself provides no support for “computing a delay to be proportional to the distance to that network element form the first network element,” as claimed. Examiner respectfully disagrees.

Harper teaches “With link state routing, each router must discover its neighbors and learn their network addresses, measure the delay to each of its neighbors, construct a packet containing this information, send the packet to all

other routers, and compute the shortest path to every other router." Col. 4, lines 37-52). Harper teaches that a delay between the network element and its neighbor is measured. The result of the delay measurement is used for computing the shortest path to every other router. Examiner believes Harper teaches the computing a delay as claimed.

Applicant further argued that "Harper do not disclose or even suggest "after a delay, updating routing information for the first network element based on the new shortest path for the first network element." Examiner respectfully disagrees because Harper indeed teaches this claimed limitation. **Harper teaches "With link state routing, each router must discover its neighbors and learn their network addresses, measure the delay to each of its neighbors, construct a packet containing this information, send the packet to all other routers, and compute the shortest path to every other router." Col. 4, lines 37-52)**

Examiner believes Harper's discloses all the claimed limitations in the arguable claims. Therefore, the rejections stand.

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yoshiba et al (US 2005/0038909 A1) discloses static dense multicast path and bandwidth management.

Rhodes (US 2002/0172157 A1) discloses method and system for fast communication of routes under multiple network states with communication continuation.

Kodialam et al (US 2002/0067693 A1) discloses dynamic backup routing of network tunnel paths for local restoration in a packet network.

Rhodes (US 7,158,486 B2) discloses method and system for fast computation of routes under multiple network states with communication continuation.

Kodialam et al (US 6,996,065 B2) discloses dynamic backup routing of network tunnel paths for local restoration in a packet network.

Huai et al (US 6,928,484 B1) discloses method and apparatus for discovering edge-disjoint shortest path pairs during shortest path tree computation.

Narvaez et al (US 6,704,320 B1) discloses dynamic algorithm for determining a shortest path tree between network nodes.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brenda Pham whose telephone number is (571) 272-3135. The examiner can normally be reached on Monday-Friday from 9:00 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn D. Feild, can be reached on (571) 272-2092.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-2600.

April 21, 2008

/Brenda Pham/

Primary Examiner, Art Unit 2616

Application Number	**Application/Control No.** 10/685,622	**Applicant(s)/Patent under Reexamination** PREVIDI ET AL.	
	Examiner BRENDA PHAM	**Art Unit** 2616	